

91
response unit (IVR), at least one operator terminal, and at least one database, said system responsive to telephone signals received from said plurality of telephone apparatus, for converting at least a portion of said received telephone signals into data signals, said data signals facilitating interactive data exchange between each of said plurality of outside parties utilizing said plurality of outside telephone apparatus and said at least one database, said IVR providing human recognizable audio output signals to said plurality of outside parties in response to data provided by said at least one data base and said telephone signals received from said plurality of outside telephone apparatus, and for storing a plurality of interactive data exchange records, each of said interactive data exchange records representing at least a portion of the interactive data exchange between one of said plurality of outside parties and said at least one data base, said system comprising:

a voice path switch, responsive to said IVR and to said telephone signals, for selectively connecting said telephone signals received from said plurality of outside parties utilizing said plurality of outside telephone apparatus to at least one of said operator terminals and said IVR dependent upon whether

operator assistance is required for each of said plurality of outside parties;

means for populating an automatic number identifier (ANI) for each outside call handled by said IVR not having an ANI and associating said ANI therewith;

91 a voice response unit interface for receiving the automatic number identifier (ANI) for each outside call handled by said IVR along with at least a portion of said plurality of interactive data exchange records exchanged between said outside party and said IVR, said voice response unit interface including memory for storing said received interactive data exchange records and a lookup table for storing each said received ANI associated with each outside call handled by said IVR;

at least one queue, for storing at least calls handled by said IVR; and

a data controller, responsive to said queue and said voice response unit interface, for identifying an ANI for each call identified in said specified queue, for comparing each said identified ANI with the ANIs stored in the voice response unit interface lookup table, for retrieving said collected data associated with an ANI stored in said voice response unit

a1 interface, and for providing said retrieved data to at least one operator terminal assigned to handle said outside call.

507
81 8. A method of providing interactive data exchange between a plurality of outside parties utilizing a plurality of telephone apparatus, a voice response system, at least one operator terminal, and at least one database, said method comprising the steps of:

a2 connecting an outside telephone apparatus to an interactive voice response unit (IVR) and receiving telephone signals, at said IVR, from said plurality of outside telephone apparatus and for converting at least a portion of said received telephone signals into data signals, said data signals facilitating interactive data exchange between each of said plurality of outside parties utilizing said plurality of outside telephone apparatus and said at least one database;

providing human recognizable audio output signals by said IVR to said plurality of outside parties in response to data provided by said at least one data base and said telephone signals received from said plurality of outside telephone apparatus;

storing a plurality of interactive data exchange records,

each of said interactive data exchange records representing at least a portion of the interactive data exchange between one of said plurality of outside parties and said at last one data base;

Q2 selectively connecting said telephone signals received from said plurality of outside parties utilizing said plurality of outside telephone apparatus to at least one of said operator terminals and said voice response unit dependent upon whether operator assistance is required for each of said plurality of outside parties;

populating an automatic number identifier for each outside call handled by the IVR not having an ANI and associating said ANI therewith;

receiving the automatic number identifier (ANI) for each outside call handled by said IVR along with at least a portion of said plurality of interactive data exchange records exchanged between said outside party and said IVR;

storing said received interactive data exchange records in a voice response unit interface memory, including a lookup table for storing each said received ANI associated with each outside call handled by said IVR;

holding calls handled by said IVR in at least one queue until

a voice path is established between a held call and at least one operator terminal;

identifying an ANI for each call held in said specified queue and comparing each said identified ANI with the ANIs stored in the voice response unit interface lookup table; and

retrieving said collected data associated with a stored ANI, and for providing said retrieved data to said at least one operator terminal assigned to handle said outside call.

9. A system for providing interactive data exchange between an outside party making a telephone call and a call center, comprising:

means for populating an Automatic Number Identifier (ANI) for an incoming telephone call having no ANI associated therewith and associating said ANI therewith;

means for identifying the Automatic Number Identifier (ANI) associated with an incoming telephone call;

means for selectively connecting the incoming telephone call to an interactive voice response unit (IVR) and a voice path switch;

a data switch controller;

an IVR in communication with ANI means and including means for receiving a telephone signal from an incoming telephone call;

a database capable of generating data signals, in communication with the IVR;

A2 an IVR interface in communication with the IVR and to the data switch controller, the IVR interface comprising a memory for storing at least a portion of the data signals and a lookup table for storing the ANI;

an operator terminal in communication with the data switch controller;

a voice path switch in communication with the operator terminal, the IVR, the ANI means, and the data switch controller and responsive to the data switch controller for switching calls between the IVR and the operator terminal.

A3 14. The system of claim 9 wherein the voice path switch comprises a queue for holding the telephone call prior to transferring the call to the operator terminal.